

Serial No. 10/724,808
Atty. Doc. No. 2003P11549US01**AUG 21 2006****REMARKS**

Claims 1-5, 7-14, 16, 17, and 19 are rejected under 35 USC 103(a) as being unpatentable over US patent 5,311,562 (Palusamy) in view of US patent 6,122,575 (Schmidt), and further in view of Japanese patent 10-255091 (Abe). Claim 18 is rejected under 35 USC 103(a) as being unpatentable over Palusamy in view of Schmidt, and further in view of Japanese patent 10-255091 (Abe), and further in view of US patent 6,487,404 (Kransmo). Claim 20 is rejected under 35 USC 103(a) as being unpatentable over Palusamy in view of Schmidt, and further in view of Japanese patent 10-255091 (Abe), and further in view of US patent 6,636,842 (Zambrano).

Claims 1, 3, 4, 7, 9, 12, 13, and 16 are amended herein. Claim 21 is new. Thus, claims 1, 3-5, 7-14, 16-21 are presented for examination. Support for the amendments of the independent claims 1, 12, and 16 is found in Applicant's paragraphs [0029] and [0058]. Support for new claim 21 is found in [0061] last sentence, and [0062] first sentence.

Response to rejections under 35 USC 103(a)

Examiner asserts that Schmidt teaches a system using previously archived fault pattern data for comparing to actual diagnostic data. However, Schmidt's database 42 of fault data (FIGs 4A, 4B) is predetermined (col. 2, line 45), rather than operationally compiled and refined as in Applicant's invention. Schmidt lacks automated learning modules 16 (FIG 4) of Applicant's system, and thus lacks continuous accumulation and optimization 13 (FIG 4) of error patterns.

Regarding claims 5 and 14, the Examiner asserts that Schmidt col. 6 lines 51-56 teaches that archived error patterns are automatically built by monitored data using statistical methods or data mining mechanisms. However, these lines of Schmidt only describe matching of fault record data (FIG 4A) and shutdown record data (FIG 4B) to error troubleshooting data (FIGs 5A-5B) stored in a database 42. They do not mention archiving or building of error patterns. On the contrary, Schmidt in col. 5, lines 4-8 describes importing a database 42 of error patterns from a storage medium 38 or a remote server, not automatically building it from the monitored process data. Therefore, this element of Applicant's invention is not taught by Schmidt.

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Abe teaches processing of manufacturing sensor data such as temperature, flow rate, and pressure [0013], to provide scatter diagrams, histograms, and Xbar charts (abstract) to determine when an average or range of a process value exceeds a predetermined control limit [0010]. However, such charts are not patterns of errors, but charts of data. Abe does not teach storing of error patterns for pattern matching as in Applicant's system, nor does Abe teach automated learning and optimization of error patterns to continually improve preemptive failure predictions.

Furthermore, Palusamy, Schmidt, and Abe do not teach defining conditions for the manufacturing system data to be monitored in an evaluation unit, and submitting these conditions to peripheral devices in the manufacturing system based on a hierarchical plant model, plant topology, and automation topology to reduce the amount of the manufacturing system data to be analyzed by an evaluation unit as is now recited in the independent claims and more specifically in claim 21.

Therefore, combining Palusamy with Schmidt and/or Abe would not produce Applicant's invention as claimed in the amended independent claims 1, 12, 16 or more specifically in the dependent claims. Accordingly the cited prior art does not support the 35 USC 103 rejections.

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Conclusion

For a claim to be obvious under 35 USC 103, any modification to known prior art must also be suggested by the prior art, not by the Applicant's invention; furthermore, such modification must work, and it must produce the Applicant's claimed invention. These criteria are not met by the cited prior art, as argued above. Therefore the Applicant believes this application to be in condition for allowance. Reconsideration and allowance are respectfully requested.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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By: 

Daniel J. Staudt
Registration No. 34,733
(407) 736-2415

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830

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